

REMARKS

Claims 1-3, 5-6 and 12-22 are pending in the present application. Claims 4 and 7-11 are cancelled herein without prejudice or disclaimer. Claims 1, 5 and 6 are herein amended. New claims 14-22 have been added. Support for the amendments and new claims is found in the current application at page 14, lines 4-11; page 26, lines 2-6; page 13, line 2 to page 14, line 4 and Figs. 1E to 1G; page 21, lines 22-23; page 25, line 21 to page 26, line 6; and, as set forth below.

Applicants' Response to the Claim Rejections under 35 U.S.C. §103:

Claims 1-3, 5-6, and 12-13 stand rejected under 35 U.S.C. 103 as being unpatentable over **Yoshida** (US 5,712,175), in view of **Furukawa et al.** (US 6,387,783) and in further view of **Sasaki et al.** (US 6,180,528). In response thereto, applicants have amended claims 1, 5 and 6 to more distinctly claim the subject matter regarded as the invention. Specifically, applicants have included the feature that the described steps of the claims occur in the order listed. In light of the amendments, applicants respectfully submit that the combined references do not teach each and every limitation of the currently claimed invention. Particularly, **Yoshida** does not teach forming the resist films consecutively prior to etching and development. Contrary, amended claims 1, 5 and 6 require forming a resist laminate, then forming an upper opening in the resist laminate and then forming a lower opening in the resist laminate.

In regard to the teachings of **Yoshida**, the Office maintains that the insulative film 3 may be a multilayer structure comprising a resist film. Col. 4, lines 23-28. The Examiner equates

this resist film to applicants' PMMA, PR10, and equates resist 6 of **Yoshida** to applicants' films R and PR20.

According to the teachings of **Yoshida**, the insulating film 3 is formed followed by a resist 4. See Fig. 3. The resist 4 is then exposed and removed to form a gate electrode opening 5. See Col. 3, line 62 to Col. 4, line 3. The film 3 is then subjected to heat treatment to cause retarding in the opening. The third layer resist 6 is then formed with the laterally broadening space to accommodate formation of the gate head. Hence, **Yoshida** requires an intermediate resist 4 to be formed, exposed and removed prior to the formation of the third resist film 6 for forming the head of the gate electrode 7.

Contrary, amended claims 1, 5 and 6 include the feature that the insulating layer 15 and the resist, PR10, R and PR20 are all formed consecutively. Page 13, lines 3-12 and Fig. 1E. Thereafter, the upper opening is first etched. Fig. 1F. Next the lower opening is formed through the upper opening. Fig. 1G. After all of the resist etching steps have been performed, the lower opening is subjected to heat treatment to retard the opening. Fig. 1H. The mushroom electrode 17 is then formed and all the resists PR10, R, PR20 and residual gate metals (17 on surface of PR20) are removed. Figs. 1I and 1J, page 15, line 22 to page 16, line 1.

Hence, the method of **Yoshida** is more complicated and distinct from the method set forth in amended claims 1, 5 and 6. Therefore, **Yoshida** does not teach each and every limitation of the claimed invention because it fails to disclose forming a resist laminate, then forming an upper opening in the resist laminate and then forming a lower opening in the resist laminate.


In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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